



## Complete Summary

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### TITLE

Pediatric gastroenteritis: hospital admission rate.

### SOURCE(S)

AHRQ quality indicators. Guide to prevention quality indicators: hospital admission for ambulatory care sensitive conditions [revision 3]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 Jan 9. Various p. (AHRQ Pub; no. 02-R0203).

## Brief Abstract

### DESCRIPTION

This indicator assesses the number of admissions for pediatric gastroenteritis per 100,000 population.

### RATIONALE

Pediatric gastroenteritis, which is one of the most common reasons for pediatric hospitalizations, can be treated on an outpatient basis.

Proper outpatient treatment may reduce admissions for gastroenteritis in the pediatric population, and lower rates represent better quality care.

### PRIMARY CLINICAL COMPONENT

Pediatric gastroenteritis; hospital admission rates

### DENOMINATOR DESCRIPTION

Population in Metropolitan Statistical Area (MSA) or county, age less than 18 years

### NUMERATOR DESCRIPTION

Discharges, age less than 18 years, with International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) principal diagnosis code for gastroenteritis. Patients transferring from another institution, Major Diagnostic Category (MDC) 14 (pregnancy, childbirth, and puerperium), or MDC 15 (newborns and other neonates) are excluded.

## Evidence Supporting the Measure

### PRIMARY MEASURE DOMAIN

Outcome

### SECONDARY MEASURE DOMAIN

Access  
Process

### EVIDENCE SUPPORTING THE MEASURE

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

## Evidence Supporting Need for the Measure

### NEED FOR THE MEASURE

Wide variation in quality for the performance measured

### EVIDENCE SUPPORTING NEED FOR THE MEASURE

AHRQ quality indicators. Guide to prevention quality indicators: hospital admission for ambulatory care sensitive conditions [revision 3]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 Jan 9. Various p. (AHRQ Pub; no. 02-R0203).

## State of Use of the Measure

### STATE OF USE

Current routine use

### CURRENT USE

Internal quality improvement  
National health care quality reporting  
Quality of care research

## Application of Measure in its Current Use

### CARE SETTING

Ambulatory Care  
Community Health Care

## PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Advanced Practice Nurses  
Physician Assistants  
Physicians

## LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Counties or Cities

## TARGET POPULATION AGE

Age less than 18 years, excluding newborns and other neonates

## TARGET POPULATION GENDER

Either male or female

## STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

## Characteristics of the Primary Clinical Component

### INCIDENCE/PREVALENCE

Gastroenteritis accounts for nearly 10% of all admissions of children under 5 years of age.

### EVIDENCE FOR INCIDENCE/PREVALENCE

Burkhart DM. Management of acute gastroenteritis in children. Am Fam Physician 1999 Dec; 60(9): 2555-63, 2565-6. [27 references] [PubMed](#)

### ASSOCIATION WITH VULNERABLE POPULATIONS

- One study suggests that complicated gastroenteritis admissions may be more common among children of low socioeconomic status.
- Millman et al. reported that low-income zip codes had 1.9 times more pediatric gastroenteritis hospitalizations per capita than high-income zip codes.

### EVIDENCE FOR ASSOCIATION WITH VULNERABLE POPULATIONS

McConnochie KM, Russo MJ, McBride JT, Szilagyi PG, Brooks AM, Roghmann KJ. Socioeconomic variation in asthma hospitalization: excess utilization or greater need. Pediatrics 1999 Jun; 103(6): 375. [PubMed](#)

Millman M, editor(s). Access to health care in America. Committee on Monitoring Access to Personal Health Care Services. Washington (DC): National Academy Press; 1993. 240 p.

## BURDEN OF ILLNESS

Unspecified

## UTILIZATION

Unspecified

## COSTS

Unspecified

## Institute of Medicine National Healthcare Quality Report Categories

## IOM CARE NEED

Getting Better

## IOM DOMAIN

Effectiveness  
Timeliness

## Data Collection for the Measure

## CASE FINDING

Both users and nonusers of care

## DESCRIPTION OF CASE FINDING

All individuals age less than 18 years in a Metropolitan Statistical Area (MSA) or county

## DENOMINATOR SAMPLING FRAME

Geographically defined

## DENOMINATOR (INDEX) EVENT

Patient Characteristic

## DENOMINATOR INCLUSIONS/EXCLUSIONS

#### Inclusions

All individuals age less than 18 years in geographic areas defined at the Metropolitan Statistical Area (MSA) level or the county level

#### Exclusions

Unspecified

### NUMERATOR INCLUSIONS/EXCLUSIONS

#### Inclusions

Discharges, age less than 18 years, with International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) principal diagnosis code for gastroenteritis (see Appendix A of the original measure documentation for ICD-9-CM codes)

#### Exclusions

Patients transferring from another institution, Major Diagnostic Category (MDC) 14 (pregnancy, childbirth, and puerperium), or MDC 15 (newborns and other neonates) are excluded.

### DENOMINATOR TIME WINDOW

Time window is a single point in time

### NUMERATOR TIME WINDOW

Encounter or point in time

### DATA SOURCE

Administrative data

### LEVEL OF DETERMINATION OF QUALITY

Not Individual Case

### OUTCOME TYPE

Proxy for Outcome

### PRE-EXISTING INSTRUMENT USED

Unspecified

## Computation of the Measure

### SCORING

Rate

## INTERPRETATION OF SCORE

Better quality is associated with a lower score

## ALLOWANCE FOR PATIENT FACTORS

Analysis by subgroup (stratification on patient factors)  
Risk adjustment method widely or commercially available

## DESCRIPTION OF ALLOWANCE FOR PATIENT FACTORS

Observed (raw) rates may be stratified by areas (Metropolitan Statistical Areas or counties), age groups, race/ethnicity categories, and sex.

Risk adjustment of the data is recommended using age and sex.

Application of multivariate signal extraction (MSX) to smooth risk adjusted rates is also recommended.

## STANDARD OF COMPARISON

External comparison at a point in time  
External comparison of time trends  
Internal time comparison

## Evaluation of Measure Properties

## EXTENT OF MEASURE TESTING

Each potential quality indicator was evaluated against the following six criteria, which were considered essential for determining the reliability and validity of a quality indicator: face validity, precision, minimum bias, construct validity, fosters real quality improvement, and application. The project team searched Medline for articles relating to each of these six areas of evaluation. Additionally, extensive empirical testing of all potential indicators was conducted using the 1995-97 Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) and Nationwide Inpatient Sample (NIS) to determine precision, bias, and construct validity. Table 1 in the original measure documentation summarizes the results of the literature review and empirical evaluations on the Prevention Quality Indicators. Refer to the original measure documentation for details.

## EVIDENCE FOR RELIABILITY/VALIDITY TESTING

AHRQ quality indicators. Guide to prevention quality indicators: hospital admission for ambulatory care sensitive conditions [revision 3]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 Jan 9. Various p. (AHRQ Pub; no. 02-R0203).

## Identifying Information

### ORIGINAL TITLE

Pediatric gastroenteritis admission rate.

### MEASURE COLLECTION

[Agency for Healthcare Research and Quality \(AHRQ\) Quality Indicators](#)

### MEASURE SET NAME

[Agency for Healthcare Research and Quality \(AHRQ\) Prevention Quality Indicators](#)

### DEVELOPER

Agency for Healthcare Research and Quality

### INCLUDED IN

National Healthcare Disparities Report (NHDR)  
National Healthcare Quality Report (NHQR)

### ADAPTATION

This indicator was originally developed by Billings and colleagues in conjunction with the United Hospital Fund of New York.

### PARENT MEASURE

Unspecified

### RELEASE DATE

2001 Oct

### REVISION DATE

2004 Jan

### MEASURE STATUS

This is the current release of the measure.

### SOURCE(S)

AHRQ quality indicators. Guide to prevention quality indicators: hospital admission for ambulatory care sensitive conditions [revision 3]. Rockville (MD): Agency for

Healthcare Research and Quality (AHRQ); 2004 Jan 9. Various p. (AHRQ Pub; no. 02-R0203).

## MEASURE AVAILABILITY

The individual measure, "Pediatric Gastroenteritis Admission Rate," is published in "AHRQ Quality Indicators. Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Sensitive Conditions." This document is available in [Portable Document Format \(PDF\)](#) and a [zipped WordPerfect\(R\) file](#) from the [Quality Indicators](#) page at the Agency for Healthcare Research and Quality (AHRQ) Web site.

For more information, please contact the QI Support Team at [support@qualityindicators.ahrq.gov](mailto:support@qualityindicators.ahrq.gov).

## COMPANION DOCUMENTS

The following are available:

- "AHRQ Prevention Quality Indicators Software (Version 2.1 Revision 3)" (Rockville, [MD]: AHRQ, 2004 Jan 9) and its accompanying documentation can be downloaded from the [Agency for Healthcare Research and Quality \(AHRQ\) Web site](#). (The software is available in both SAS- and SPSS-compatible formats.)
- Guidance for using the AHRQ quality indicators for hospital-level public reporting or payment. Rockville (MD): Agency for Healthcare Research and Quality; 2004 Aug. 24 p. This document is available from the [AHRQ Web site](#).
- "HCUPnet, Healthcare Cost and Utilization Project" [internet]. (Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 [Various pagings]). HCUPnet is available from the [AHRQ Web site](#).
- "Refinement of the HCUP Quality Indicators" (Rockville [MD]: AHRQ, 2001 May. Various pagings. [Technical review; no. 4]; AHRQ Publication No. 01-0035). This document was prepared by the UCSF-Stanford Evidence-based Practice Center for AHRQ and can be downloaded from the [AHRQ Web site](#).

## NQMC STATUS

This NQMC summary was completed by ECRI on December 19, 2002. The information was verified by the Agency for Healthcare Research and Quality on January 9, 2003. This NQMC summary was updated by ECRI on April 6, 2004.

## COPYRIGHT STATEMENT

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